

24. (NEW) A retroviral vector particle comprising a packageable RNA genome based on a first retrovirus which when in the form of a DNA provirus the RNA genome comprises:

- (i) a 5'LTR comprising a HIV U3 and R region or functional portions thereof having Tat inducible promoter activity in place of the 5'LTR promoter function of the retrovirus on which the vector particle is based;
- (ii) at least one nucleotide sequence (NS) capable of being expressed in a target cell; and
- (iii) at least one polynucleotide response element (PRE) derivable from a second retrovirus which is responsive to a nucleus to cytoplasm transport factor;

wherein the NS is spliced and detectably expressed only in cells which also express Tat and Rev; wherein the NS and the PRE are located within an intron in a transcription unit of the provirus; wherein the intron is flanked by a splice donor (SD) site and a splice acceptor (SA) site; and wherein the SD site is derivable from the first retrovirus and the SA site is derivable from the second retrovirus.

25. (NEW) The retroviral vector particle according to claim 24, wherein the polynucleotide response element is responsive to a transactivating retroviral nucleus to cytoplasm transport factor.

26. (NEW) The retroviral vector particle according to claim 25, wherein the polynucleotide response element is responsive to HIV Rev or a functional equivalent thereof.

27. (NEW) The retroviral vector particle according to claim 24, wherein the polynucleotide response element is the Rev response element (RRE) or a functional equivalent thereof.

28. (NEW) The retroviral vector particle according to claim 24 wherein the NS encodes a therapeutic gene.

29. (NEW) The retroviral vector particle according to claim 24 wherein the first retrovirus is an oncoretrovirus.

30. (NEW) The retroviral vector particle according to claim 29 wherein the oncoretrovirus is a murine leukemia virus (MLV).

31. (NEW) The retroviral vector particle according to claim 24, wherein the second retrovirus is a lentivirus.

32. (NEW) The retroviral vector particle according to claim 31 wherein the lentivirus is an HIV virus.

33. (NEW) The retroviral vector particle according to claim 24 wherein a packaging signal is contained within the intron in which the NS is located.

34. (NEW) A DNA construct encoding the packagable RNA genome for the retroviral vector particle according to claim 24 operably linked to a promoter.

35. (NEW) The DNA construct according to claim 34, wherein the promoter is a strong promoter.

36. (NEW) The DNA construct according to claim 35, wherein the promoter is a CMV promoter.

37. (NEW) The DNA construct according to claim 34, wherein the selected gene is absent and the construct has an insertion site within the intron at which one or more NS may be inserted.

38. (NEW) A retroviral vector particle production system comprising a host cell transfected with the DNA construct according to claim 34.

39. (NEW) A retroviral vector particle production system comprising a set of nucleic acid sequences encoding the components of a retroviral vector particle according to claim 24.

40. (NEW) An *in vitro* method for infecting or transducing a target cell with a retroviral vector according to claim 24; the method comprising:

(i) providing the target cell;

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- (ii) contacting the cell with the retroviral vector; and
  - (iii) selecting for a cell which has been infected or transduced by the retroviral vector.
41. (NEW) The target cells resulting from the method according to claim 40.